

LITHOSTAR MODULARIS

SP

Maintenance Instructions

System

MODULARIS Uro

The protocol SPL1-130.105.02.03.02 is required for these instructions

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1 General Information

1.1 Required Documents

- | | |
|--------------------------|---------------------|
| • Spare Parts List | Spare Parts Catalog |
| • Service protocol | SPL1-130.105.02.. |
| • Service instructions | SPL1-130.105.02.. |
| • Operating instructions | |

1.1.1 Measurement devices and auxiliary materials

NOTE	The indicated articles are listed in the STC (Service Tools Catalog) unless otherwise stated (the STC is a component of the Spare Parts Catalog), except for those items identified with "**" .
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- | | | |
|--------------------------------------|--------------|------------------|
| • Protective conductor meter | | 44 15 899 RV 090 |
| • Digital voltmeter, e.g., Fluke 187 | | 99 94 831 |
| • ESD auxiliary material | - Wrist band | 34 63 874 |
| | - Cable | 34 64 062 |
| • Start-up tool kit | | |
| • High-pressure grease gun | | 28 84 609 RE 012 |
| • "Longtime PD2" grease 1kg or | | 73 95 445 RH 999 |
| "Longtime PD2" grease 20g or | | 34 91 271 |

1.2 Emphasized text

 DANGER	DANGER indicates when there is an immediate danger that leads to death or serious physical injury.
 WARNING	WARNING indicates a risk of danger that may lead to death or serious physical injury.
 CAUTION	CAUTION used with the safety alert symbol indicates a risk of danger that leads to slight or moderate physical injury and/ or damage to property.
NOTICE	NOTICE used without the safety alert symbol indicates a risk of danger that if disregarded leads or may lead to a potential situation which may result in an undesirable result or state other than death, physical injury or property damage.

Fig. 1: Safety Notes

1.3 Safety information and protective measures

NOTE

- When performing service work and tests adhere to:
 - the product-specific safety instructions in the documentation,
 - as well as the general safety information contained in ARTD Part 2.
- Disconnect the power cable when working on the system.
- General safety requirements should be observed when performing service while voltage is present.
- Observe ESD regulations.
- Switch off the power prior to replacing modules or boards.
- After all work has been concluded and after all covers have been reattached, perform the protective conductor test according to ARTD-002.731.17.
- The protective conductor resistance may not exceed 0.2 Ohms.
- When performing work on the switch-on assembly (replacing the switch-on assembly or line voltage cable), the leakage current of the replacement part should be measured and documented.
- Checks and settings that need to be performed with radiation switched on are identified by the radiation warning symbol. Suitable radiation protection measures must be adopted during these types of adjustment.
(Refer to ARTD, Part 2)

1.4 Tolerance data for linear dimensions

General tolerances for linear dimensions per ISO 2768

These tolerances apply to all dimensions indicated in these instructions, unless other tolerances are specifically indicated after the value.

Limit value for the nominal range	Allowable tolerance
over 3 mm to 6 mm	± 0.5 mm
over 6 mm to 30 mm	± 1.0 mm
over 30 mm to 120 mm	± 1.5 mm
over 120 mm to 400 mm	± 2.5 mm
over 400 mm to 1,000 mm	± 4.0 mm
over 1,000 mm to 2,000 mm	± 6.0 mm
over 2,000 mm to 4,000 mm	± 8.0 mm

1.5 Tolerance data for torque values

If no other information is provided, use the corresponding torque values for hardness rating 8.8 when checking torque values.

A tolerance of $\pm 10\%$ is permitted for torque values.

1.6 Explanation of abbreviations in the maintenance certificate

Abbrev.	Description
SI	Safety Inspection
SIE	Electrical Safety
SIM	Mechanical Safety
PM	Preventive Maintenance
PMP	Periodic Preventive Maintenance
PMA	Preventive Maintenance Adjustments
PMF	Preventive Check of Operating Values/Functions
Q	System Quality, Image Quality
QIQ	Image Quality
QSQ	System Quality Check
SW	Software Maintenance
CSE	Customer Service Engineer
KSK No.	Customer-specific code
IVK	Installed Volume Component
GR	Maintenance Unit

The steps identified by these abbreviations are part of the maintenance certificate and should be checked off upon completion.

1.7 Maintenance interval

Unless otherwise indicated, the maintenance interval is 12 months.

NOTE

The sequence for complete maintenance and inspection is described on the following pages.

Each work step must be performed on an annual basis, if not otherwise specified.

2 MODULARIS Uro Maintenance

2.1 Exterior inspection

PMP Cover panel

PMP Table pad

- Check the entire object table for mechanical damage.
- Replace defective parts or repair, if necessary.

2.2 Safety inspections

SI Remove device covers

- Remove the covers on the lifting unit.

SI Cables

- If accessible, check cable insulation for damage or sharp bends.

SI Protective conductor check

- Measure the protective conductor with the conductor meter according to ARTD Part 2.
(the protective conductor check must be repeated as a final step when the system has been closed!).

2.3 Inspection of environment

SIE Power outlets

- Check the power plug for damage.

SIE Line voltage

- Check line voltage.

SIE Ground fault detector

- Check ground fault detector.

2.4 Mechanical Safety

SI Locking brake

- Operate the locking brake and check whether the object table moves.

SI Table extensions

- Attach the object table extensions and check for stability.

SI Accessory panel

- Check the accessory panel for stability.
- Check the accessories for function and replace if faulty.

2.5 Lubricate the linear guide of the longitudinal drive

PMP Check lubrication

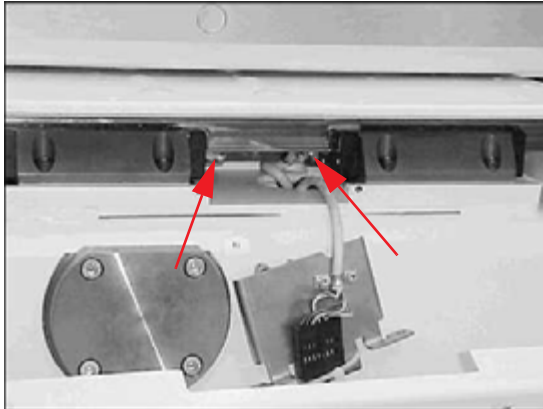


Fig. 1:

- Remove the covers on the lifting unit.
- Unscrew the connector for the tableside control panel. ([Fig. 1 / p. 15](#))
- Lubricate the bearing blocks of the linear guides with the high-pressure grease gun. ([Fig. 1 / p. 15](#))
- Move the table back and forth and remove excess grease.

2.6 Pneumatic spring

PMP Check pneumatic spring.

- Check whether oil is leaking out; if so, replace the pneumatic spring.

2.7 Device main switch

PMF Lamp glows

- Switch on device main switch.
- Check whether the lamp in the device main switch glows.

2.8 Footswitches

PMF	Function
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- | | |
|--|--|
| | <ul style="list-style-type: none">• Check all functions of the footswitch according to the Operating Instructions.• Check cables and plug connections for damage. |
|--|--|

2.9 Tableside control panel

PMF Checking the function

- Check all functions of the tableside control panel according to the Operating Instructions.

PMF No damage

- Check cables and plug connections for damage.

2.10 Object table

PMP Clean exterior surfaces.

PMP Clean interior surfaces.

PMP Paint

- Clean object table.
- Remove soil from inside the object table.
- Touch up paint damage, if required.

2.11 Cover panels

PMF **Attach device covers.**

- Re-attach all covers and check for damage.

2.12 Unit Function

PMF Functions when the unit is closed

- Finally, check all motion functions.
- Functional check of accessories (see Operating Instructions)
 - Replace if damaged (see Spare Parts List).

SI Protective Conductor Test

- Check the protective conductor with the system closed according to ARTD Part 2 (see also Assembly/Start-up Instructions).

3 Changes to Previous Version

Document was converted to DMS

